



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/773,613

02/06/2004

Daniel J. Scales

A41

7774

36378

7590

05/27/2009

VMWARE, INC.  
DARRYL SMITH  
3401 Hillview Ave.  
PALO ALTO, CA 94304

EXAMINER

LIAO, JASON G

ART UNIT

PAPER NUMBER

2156

MAIL DATE

DELIVERY MODE

05/27/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/773,613	<b>Applicant(s)</b> SCALES ET AL.	
	<b>Examiner</b> JASON LIAO	<b>Art Unit</b> 2156	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 30-39 is/are pending in the application.
- 4a) Of the above claim(s) 15-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 30-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-14, 30-39 are pending in this action with claims 1, 11, 12, 30, 31, 33, 39 amended; and claims 15-19 are withdrawn.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 Mar 09 has been entered.

#### ***Response to Arguments***

3. **Applicant's arguments filed 30 Mar 09 have been fully considered but they are not persuasive.**

Applicants have noted that many aspect of Guthridge do not comport with the instant specification. Remarks at 12-16.

Even if this is true, the examiner notes that the PTO standard for examination of the claims is the broadest reasonable interpretation standard, and that as a general rule, patent examiners should not import unclaimed limitations from the specification into the claim. MPEP 2123. Furthermore, although the specification as filed may described concepts

Art Unit: 2156

very distinct from the prior art, arguments directed towards unclaimed features or advantages are not convincing. See MPEP 2145(VI).

With respect to argument regarding (WRTA) claims 1, 2, 30, 34

First:

(a) Locks are part of the file system as conceived and disclosed in Guthridge. For example, see the Abstract (“A method and system for asserting a lock in a distributed file system”).

(b) The concepts of an owner field being managed by a server and/or client, and an owner field being contained in a file system are not mutually exclusive.

Second:

The examiner cannot locate any limitation requiring “direct access”.

Furthermore, even if the limitation of a first computing entity having “direct access” were present, what would be the meets and bounds of “direct access”?

Could if a file were transferred into RAM, would that still constitute direct access? If the signal from a computing entity to trigger file lock and access were required to be routed through a bus (as is done on all modern computers) would this still constitute direct access? If said signal were delayed, would this constitute direct access? Such a limitation, without further description, might be

Art Unit: 2156

considered indefinite. However, at present, it is an academic discussion because the limitation is not found within the claim.

WRTA claim 5, applicants distinguish claim w/a first computing entity.

Examiner cited Fig. 3A for claim 1, in context of the broader limitation in claim 1 citing a first computing entity. In the Guthridge discussion of Fig. 3, it is a client node that performs querying (See Col 4 lines 11-13). Consequently, it is the client that requests the lock.

Compare with Instant Specification [0041] describing the computing entities as one of the element 10 servers, and Instant Figs 2 elements 10, 42, Fig. 3, elements 42, 48-53. In the instant application, the filesystem is not disclosed as being located on an element 10 server, therefore, any write performed on the file system must be understood to be actually performed through a network and by the data storage unit. Writing by any “computing entity”, as disclosed, is merely the initiation of a process that allows the eventual writing of data by the data storage unit.

Thus, with respect to applicants, Guthridge discloses the limitations of “the first computing entity writing...” to the fullest extent that applicants have themselves disclosed support for that limitation.

Art Unit: 2156

WRTA claims 8, 9, 14, 31-33, applicants emphasize that the *time field* is in a *file system*.

Regarding the time field, the examiner notes that Guthridge uses what is known as an *epoch number*. Firstly, an epoch is a period of time signified by an event, and as such, an *epoch number* alone would be sufficient to establish a prima facie case. However, also note that applicants' own specification states that "time field" is merely a designation, and is not required to contain a value that represents time. See Instant Specification [0039] "As another alternative, the time field 45B may contain some value that does not represent time at all. For example, the time field 45B may contain some value that is incremented whenever a computing renews a lease or it may even include an arbitrary value...".

Regarding the file system containing the epoch number, note that applicants conceive a file system as "also including one or more additional data entities that are concurrently accessible to at least one other computing entity." Instant Specification [0018]. The examiner notes that Col 3 lines 10-16 show the epoch number is in persistent memory. This epoch number is an "additional data entity" concerning said file system. Col 6 lines 12-38 broadly describe how to determine if a lock is refreshable or whether it can be stolen. That determination requires comparison of the epoch number, and therefore it must be concurrently accessible to at least one other computing entity (the "other computing entity" being the previous owner).

Art Unit: 2156

Also, note that specifically to claims 8, 14, the arguments address limitations not found in the claims.

WRTA claims 11, 12, 39, the arguments are directed towards a queue as part of the file system.

Guthridge discloses a list, which those skilled in the art would understand to be a first-in-first-out access.

Regarding 12, 19, Taylor has been cited as disclosing a queue. Note that these structures related to the queue are described in context of the Locking Class (element 20).

Furthermore, note that Col 12 describes, as an *alternative* embodiment, the shared resource as an external to “the file system and operating system *in which the locking mechanism is implemented*”. As such, it is implicit that the explicitly disclosed embodiment in Taylor contemplates the locking mechanism, including the queue, as part of the file system.

Regarding those claims with a queue time field, the queue lock file checksum comprises as creation time. See Fig. 3 element 72.

WRTA claims 3, 4, 6, 7, 10, 13, 35, 36, 37, 38:

The examiner maintains the rejection on the same grounds. Applicants have merely provided a blanket statement that “References [Reference names here] do not [select any combination of: teach, suggest, hint] the requirement of [limitations]”, and have not

Art Unit: 2156

proffered evidence supporting their argument that the cited portions of the references do not meet the limitations of the claims. As such, the arguments are unconvincing on their face, and no further explanation is warranted.

#### Addendum

The present examiner differs from the examiner who composed the first office action in this case. Upon careful review of the references, the examiner finds that Guthridge contains and discloses reading and writing to a “time field”, through its disclosure of an “epoch number”. The limitation of “time field” is found in Instant Specification [0039]. Guthridge discloses both reporting (Col 6 lines 18-19) and updating (Col 3 lines 65-66) the epoch number.

The examiner also notes that a queue is known to those skilled in the art as a FIFO list. The term list, as known to those skilled in the art, is implicitly FIFO ordered unless otherwise specified (e.g see the FOLDOC.org entry).

The examiner also notes that claim 7 claims the use of a zero as a further limitation. However, this is merely descriptive material that is not functionally related to its substrate. The use of a zero itself holds no patentable weight. See MPEP 2106.01.

#### ***Claim Objections***

4. Claim 7 is objected to under 37 CFR 1.75(c) for failure to further limit a parent claim.



Art Unit: 2156

Claim 7 purports to further limit claim 5 by reciting a specific interpretation of a field, when that field is designated with a zero. However, this zero is merely indicative, and has no functional relationship with the substrate. As evidence of this note that Instant Specification [0038] states “The owner data field may contain a zero or some other special value to indicate...” showing that a zero is merely an indication.

MPEP 2106.01 states “When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory [...]”.

As such, claim 7 does not recite features that hold patentable weight. Because no weight results, it does not further limit the claim.

For purposes of examination, the claim has been examined as if it states *the owner field indicates that the first data entity is not currently leased through a distinct value.*

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2156

**6. Claims 1-3, 5-7, 9, 11, 14, 30-35, 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Guthridge et al (US 7,124,131 B2) hereinafter Guthridge.**

With respect to claim 1, Guthridge discloses a method for attempting to access a first data entity in a file system (Col 2 lines 1-2, a method for reasserting a lock in a distributed file system), the method being performed by a first computing entity, the file system also including one or more additional data entities that are concurrently accessible to at least one other computing entity, the method comprising:

the first computing entity attempting to obtain a lease for itself on the first data entity by performing the reading an owner field the file system including an owner field that can be used to determine whether the first data entity is leased by a computing entity and a time field that can be used to determine whether a lease for the first data entity has expired (col 4 lines 29-31, Fig. 3A, element 70, a query is conducted to determine if a lock manager data structure exists) and:

if the owner field indicates that the first data entity is not currently leased, the first computing entity writing to the owner field in the file system to indicate an assumption of a lease of the first data entity (col 4 lines 33-35, Fig. 3A, element 76, if the lock data structure does not exist, a new lock manager data structure for the identified object is created (col 6 lines 57-58, client node identifier associated with the lease), and writing to the time field in the file system to indicate when the lease expires (col 4 lines 58-59, return file system epoch number of the lock); or

Art Unit: 2156

if the owner field indicates that the first data entity has been leased, the first computing entity reading the time field in the file system (col 4 line 58-59, Fig. 3A, element 82, a response to query indicating a current lease, return epoch number of the lock) and:

if the time field indicates that the lease has expired, the first computing entity writing to the owner field in the file system to break the existing lease (col 4 lines 26-29, if a client node requests a lock with an expired lease, requesting client node may recover the lock lease, col 5 line 32-33, expired lease is deleted) to indicate an assumption of a new lease (col 5 lines 31-32, Fig. 3B, element 96, flag is set) and the first computing entity writing to the time field in the file system to indicate when the new lease expires (Abstract, lines 2-3, locks have a lease for a limited time period, col 8 lines 23-24, hold lock for a set lease period); or

if the time field indicates that the lease is still active, concluding that the first data entity is currently unavailable (col 6 lines 66-67, if there is a conflict, the lock request is denied); and

if a lease is obtained, the first computing entity accessing the first data entity while the lease is in effect (col 1 lines 30-32, once the client node holds a distributed lock the client node can access the data).

In regard to claim 2, Guthridge discloses the method wherein the **first data entity is a file** as client can access the data for the file (column 1, lines 31-32).

Art Unit: 2156

In regard to claim 3, Guthridge discloses the method of wherein the **first data entity includes metadata** as metadata information for the requested file (column 1, line 26) and **the owner field is located in this metadata** as attributes of a file, such as owner, group, mode, etc. maintained in client node data cache (column 7, lines 17-18).

In regard to claim 5, Guthridge discloses the method of claim 1, wherein the step of the **first computing entity writing to the owner field to indicate an assumption of a lease of the first data entity comprises the first computing entity writing a data value to the owner field that uniquely identifies the first computing entity** as a unique client node identifier is assigned to the client node when the lease is established (Guthridge, column 3, lines 19-21).

In regard to claim 6, Guthridge discloses the method wherein the **data value that uniquely identifies the first computing entity is determined autonomously by the first computing entity** as manager adapted to control a lock version number (Guthridge, column 2, lines 16-18).

In regard to claim 7, Guthridge discloses the method wherein **the owner field indicates that the first data entity is not currently leased when the owner field contains a value of zero** as lock is downgraded to 'None' indicating the lock should be released completely (Guthridge, column 7, line 44-45).

In regard to claim 9, Guthridge discloses the method **wherein the first computing entity determines whether a prior lease has expired by reading a first value from the time field** as determine if the client requesting the lock already holds a lock (Guthridge, column 4, lines 48-49), query will return epoch number (Guthridge, column 4, lines 56-59), **delaying for a**

Art Unit: 2156

**predetermined lease period** as new lock requests are denied during a lock reassertion grace period (Guthridge, column 4, lines 19-20) **and reading a second value from the time field** as current epoch number of file system is read (Guthridge, column 6, line 18, Fig. 4A, element 144), **wherein the first computing entity determines that the prior lease has expired if the second value is the same as the first value** as determine if epoch number of file system is equivalent to epoch number provided by client node (Guthridge, column 6, lines 26-28, Fig. 4A, element 150), **and the first computing entity determines that the prior lease has not expired if the second value is different from the first value** as negative response will result in denial of lock assertion (Guthridge, column 6, lines 31-32).

With respect to claim 11, Guthridge discloses the method wherein, if the first computing entity concludes that the first data entity is currently unavailable (col 5 lines 29, 33-34, if the lease has not expired), the first computing entity further writes an entry to queue owner field in a queue to indicate an interest in accessing the first data entity (col 5 line 35, the client node requesting the list is added to a list).

In regard to claim 14, Guthridge discloses the method wherein, **if a lease is obtained, the first computing entity also sets a renewal timer** as locks have a lease for a limited time period (Guthridge, Abstract, lines 2-3) **and, after the renewal timer expires, the first computing entity renews the lease by writing a new value to the time field** as client node may reassert a lock for a lease that has expired (Guthridge, column 6, lines 13-14, Fig. 4A, element 158).

Art Unit: 2156

In regard to claim 30, Guthridge discloses **a method for attempting to access a first data entity in a file system** as a method for reasserting a lock in a distributed file system (Guthridge, column 2, lines 1-2), the method being performed by a first computing entity, the file system also including one or more additional data entities that are concurrently accessible to at least one other computing entity the method comprising:

**the first computing entity reading the owner field the file system including an owner field that can be used to determine whether the first data entity is in use by a computing entity and determining whether the first data entity is in use by a computing entity** as a query is conducted to determine if a lock manager data structure exists (column 4, lines 29-31, Fig. 3A, element 70);

**if the first data entity is not in use by a computing entity, the first computing entity writing to the owner field in the file system to take control of a lock on the first data entity** as if the lock data structure does not exist, a new lock manager data structure for the identified object is created (column 4, lines 33-35, Fig. 3A, element 76), client node identifier associated with the lease (column 6, lines 57-58); and

**if control of the lock is obtained, the first computing entity accessing the first data entity** as once the client node holds a distributed lock the client node can access the data (column 1, lines 30-32); or

**if control of the lock is not obtained** as if the lease has not expired (Guthridge, column 5, line 29, lines 33-34), **the first computing entity writing an entry to a queue in a file system owner field to indicate an interest in accessing the first data entity and waiting for an**

Art Unit: 2156

**opportunity to access the first data entity** as the client node requesting the list is added to a list (Guthridge, column 5, line 35).

In regard to 31, Guthridge discloses the method further comprising, **if the first data entity is in use by a computing entity, the first computing entity reading a time field in the file system to determine whether a lease on the data entity has expired** as a response to query indicating a current lease, return epoch number of the lock (Guthridge, column 4, line 58-59, Fig. 3A, element 82) and, **if the lease has expired, the first computing entity writing to the owner field to break the existing lease** as if a client node requests a lock with an expired lease, requesting client node may recover the lock lease (Guthridge, column 4, lines 26-29), expired lease is deleted (Guthridge, column 5, line 32-33) **and to indicate an assumption of a new lease of the first data entity** as flag is set (Guthridge, column 5, lines 31-32, Fig. 3B, element 96).

In regard to claim 32, Guthridge discloses the method **wherein the first computing entity determines whether the lease has expired by reading a first value from the time field** as determine if the client requesting the lock already holds a lock (Guthridge, column 4, lines 48-49), query will return epoch number (Guthridge, column 4, lines 56-59), **delaying for a predetermined lease period** as new lock requests are denied during a lock reassertion grace period (Guthridge, column 4, lines 19-20) **and reading a second value from the time field** as current epoch number of file system is read (Guthridge, column 6, line 18, Fig. 4A, element 144), **wherein the first computing entity determines that the lease has expired if the second value is the same as the first value** as determine if epoch number of file system is equivalent to epoch number provided by client node (Guthridge, column 6, lines 26-28, Fig. 4A, element 150),

Art Unit: 2156

and **the first computing entity determines that the lease has not expired if the second value is different from the first value** as negative response will result in denial of lock assertion (Guthridge, column 6, lines 31-32).

In regard to claim 33, Guthridge discloses the method further comprising, if the first data entity is not in use by a computing entity, in addition to writing to the owner field to take control of the lock on the first data entity, the first computing entity writing to a time field (Col 3, epoch) in the file system to indicate when a lease of the first data entity expires (Abstract, lines 2-3, locks have a lease for a limited time period), hold lock for a set lease period (Guthridge, column 8, lines 23-24).

In regard to claim 34, Guthridge discloses the method **wherein the first data entity is a file** as client can access the data for the file (Guthridge, column 1, lines 31-32).

In regard to claim 35, Guthridge discloses the method wherein **the first data entity includes metadata** as metadata information for the requested file (Guthridge, column 1, line 26) **and the owner field is located in this metadata** attributes of a file, such as owner, group, mode, etc. maintained in client node data cache (Guthridge, column 7, lines 17-18).

In regard to claim 38, Guthridge discloses the method wherein **the first computing entity autonomously determines a data value that uniquely identifies the first computing entity** as manager adapted to control a lock version number (Guthridge, column 2, lines 16-18) and **the first computing entity assumes a lock on the first data entity by writing the unique data**



Art Unit: 2156

**value into the owner field** as a unique client node identifier is assigned to the client node when the lease is established (Guthridge, column 3, lines 19-21).

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. **Claims 4, 10 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthridge as applied to claims 1 and 30 in view of Shaughnessy (US 5,692,178) System and Methods for Improved File Management in a Multi-User Environment, granted November 25, 1997, hereinafter Shaughnessy.**

In regard to claim 4, Guthridge discloses different locks, such as session, data and range locks (Guthridge, column 3, lines 46-47), however Guthridge does not specifically disclose **wherein the first data entity is a directory**. On the other hand, Shaughnessy discloses a plurality of locks types including a directory lock, (Shaughnessy, column 3, line 48).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the directory lock of Shaughnessy where **the first data entity is a directory** because a plurality of lock types are included for maximizing concurrent access while minimizing corruption and data loss (Shaughnessy, column 3, line 50-51). It is also noted that Guthridge, Taylor and Shaughnessy are from file management, and more specifically access management (Guthridge, Abstract: lines 1-2, locks in a distributed file system, Taylor, Abstract: line 2-3, locking mechanism to control access to a shared resource, Shaughnessy, Abstract: line 7, controlling concurrent access).

Art Unit: 2156

In regard to claim 10, Guthridge does not specifically disclose the method of **wherein the steps of reading the owner field and reading the time field are both performed in a single read operation**. On other hand, Shaughnessy discloses a lock file read in a single I/O operation (Shaughnessy, column 19, lines 15-16).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge and Taylor to include the single I/O operation of Shaughnessy for **the steps of reading the owner field and reading the time field are both performed in a single read operation** because this avoids multiple reads, thus avoiding a performance penalty (Shaughnessy, column 19, lines 24-26).

In regard to claim 36, Guthridge discloses different locks, such as session, data and range locks (Guthridge, column 3, lines 46-47), however Guthridge does not specifically disclose the method **wherein the first data entity is a directory**. On the other hand, Shaughnessy discloses a plurality of locks types including a directory lock, (Shaughnessy, column 3, line 48).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the directory lock of Shaughnessy where **the first data entity is a directory** because a plurality of lock types are included for maximizing concurrent access while minimizing corruption and data loss (Shaughnessy, column 3, line 50-51).

**9. Claims 8, 13 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthridge as applied to claims 1 and 30 in view of Stakutis et al. (US 6,658,417 B1) Term-**

Art Unit: 2156

**Based Methods and Apparatus for Access to Files on Shared Storage Devices, granted December 2, 2003, hereinafter Stakutis.**

In regard to claim 8, Guthridge discloses the method **wherein the first computing entity a lease expires a predetermined period of time after the lease begins** as locks have a lease for a limited time period (Guthridge, Abstract, lines 2-3), and however Guthridge does not specifically disclose **wherein the step of writing to the time field to indicate when the lease expires comprises the first computing entity writing a current time value to the time field;** although Guthridge does a lease for a limited time period (Guthridge, Abstract, lines 2-3). On the other hand, Stakutis discloses a lease duration referenced to the time of the request (Stakutis, column 10, lines 9-10).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the request time of Stakutis for **writing a current time value to the time field** because once a lease is granted, clients may let the lease expire rather than closing the session (Stakutis, column 10, lines 41-43). It is also noted that Guthridge, Taylor and Stakutis are from file management, and more specifically access management (Guthridge, Abstract: lines 1-2, locks in a distributed file system, Taylor, Abstract: line 2-3, locking mechanism to control access to a shared resource, Stakutis, Abstract: lines 15-16, access to file on the storage device by generating a "lease").

In regard to claim 13, Guthridge does not specifically disclose the method further comprising **the first computing entity reserving a disk on which the owner field and the time field are**

Art Unit: 2156

**located to ensure exclusive access to the disk for the reading and writing of the owner field and the time field.** On the other hand, Stakutis discloses dedicated storage devices.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the dedicated storage devices of Stakutis for **reserving a disk on which the owner field and the time field are located to ensure exclusive access to the disk for the reading and writing of the owner field and the time field** because this allows the client nodes to access the file system without extraneous network communications (Stakutis, column 4, lines 27-29).

In regard to claim 37, Guthridge does not specifically disclose the method further comprising **the first computing entity reserving a disk on which the owner field is located to ensure exclusive access to the disk for the reading and writing of the owner field.** On the other hand, Stakutis discloses dedicated storage devices.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the dedicated storage devices of Stakutis for **reserving a disk on which the owner field and the time field are located to ensure exclusive access to the disk for the reading and writing of the owner field and the time field** because this allows the client nodes to access the file system without extraneous network communications (Stakutis, column 4, lines 27-29).

Art Unit: 2156

**10. Claims 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthridge as applied to claims 1, 11 in view of Taylor (US 7,107,267 B2) hereinafter Taylor.**

With respect to claim 12, Guthridge discloses that the first computing entity also writes to a queue in a file system as per claim 11, and that the each lock has a certain period of time (Col 3 line 60-Col 4 line 5, lock reassertion grace period) for valid locks but does not directly disclose that the queue time field is in the queue (in the file system).

Taylor discloses a lease length (column 5, line 57, Fig. 3, element 118) as part of the entry of a queue.

Both Guthridge and Taylor are directed towards locking mechanisms, with the base mechanism including a queue. One of the queues in Taylor was improved with a time field for expiration. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to improve the Guthridge queue to include the lease length of Taylor because if a process granted access would cease access operations when the lease expires (Taylor, column 5, lines 44-45), in order to obtain the predictable result of removal from the queue.

**11. Claims 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthridge as applied to claim 30 in view of Taylor.**

In regard to claim 39, Guthridge discloses the method further comprising, if control of the lock is not obtained, in addition to writing an entry to a queue owner field in the file system to indicate an interest in accessing the first data entity.

Guthridge does not specifically disclose **the first computing entity writing to a queue time field in the file system to indicate a period of time for which the entry to the queue owner field is valid**. Taylor discloses a lease length (Taylor, column 5, lines 46-47, Fig. 3, element 106).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to further modify the teaching of Guthridge to include the lease length of Taylor for **writes to a queue time field to indicate a period of time for which the entry to the queue owner field is valid** because if a process granted access would cease operations when the lease expires (Taylor, column 5, lines 44-45).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON LIAO whose telephone number is (571)270-3775. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre Vital can be reached on 571-272-4215. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2156

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. T./  
Examiner, Art Unit 2167

19 May 09  
/Jason Liao/  
Examiner, Art Unit 2156

/Pierre M. Vital/  
Supervisory Patent Examiner, Art Unit 2156